## AMENDMENTS TO THE CLAIMS

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:** .

1. (Currently Amended) A projector, comprising:

an image display portion ~~and~~

a projection lens for projecting an image, displayed on said image display portion, ~~on~~ onto a screen,

~~said projector, further comprising;~~

an image sensor which is placed in the vicinity of said projection lens and images the screen and the ~~projected and displayed~~ image ~~and said screen~~ projected onto the screen;

means for detecting a projection display area from the image imaged by said image sensor;

means for detecting a screen area from the image imaged by said image sensor; and

means for correcting an inputted image data so that said projection display area matches said screen area.

2. (Currently Amended) The projector according to claim 1, wherein said image sensor images the projected ~~and displayed~~ image through said projection lens.

3. (Original) The projector according to claim 1, wherein means for detecting said projection display area calculates the positions of the four corners of said projection display area.

4. (Original) The projector according to claim 1, wherein means for detecting said screen area calculates the positions of the four corners of said screen area.

5. (Currently Amended) The projector according to claim 1, wherein means for detecting said projection display area discriminates the positions of a plurality of representative points on the projected ~~and displayed~~ image.

6. (Original) The projector according to claim 1, wherein a test image is projected in order to image said projection display area by said image sensor.

7. (Original) The projector according to claim 1, wherein a display position and a size of the image displayed on said image display portion are transformed to an analogous shape of said detected screen area.

8. (Original) The projector according to claim 7, wherein an image is projected on the portion in which said screen area and said projection display area are superposed when said screen area and said projection display area are different.

9. (Original) The projector according to claim 1, wherein said projection display area is shown by coordinates inside the image imaged by said image sensor.

10. (Original) The projector according to claim 1, wherein said screen area is shown by the coordinates inside the image imaged by said image sensor.

11. (Currently Amended) An image distortion correction method of a projector which projects an image, displayed on an image display portion, on onto a screen, comprising the steps of:

      imaging said screen by an image sensor installed in the vicinity of said projection lens;

      detecting the area of said screen from an imaged screen image; and

      correcting an inputted image so that the a previously detected projection display area previously detected matches said screen area.

12. (Original) The image distortion correction method according to claim 11, wherein said projector is installed so that said screen area, which is imaged, is included in said projection display area.

13. (Original) The distortion correction method according to claim 11, wherein said image sensor images said screen through said projection lens.

14. (Currently Amended) The image distortion correction method according to claim 11, wherein ~~the method has~~ the positions of the four corners of said screen area are used as the data of said projection display area.

15. (Currently Amended) The image distortion correction method according to claim 11, wherein ~~the method calculates~~ the positions of the four corners of said screen area are calculated as the data of said screen area.

16. (Currently Amended) The image distortion correction method according to claim 11, wherein ~~the method has~~ the positional data of a plurality of representative points on the projected ~~and displayed~~ image is used as the data of said projection display area.

17. (Original) The image distortion correction method according to claim 11, wherein the display position and the size of the image displayed on said image display portion are modified to the analogous shape of said detected screen area.

18. (Currently Amended) The image distortion correction method according to claim 17, wherein an image is projected ~~and displayed in~~ onto the portion in which said screen area and said projection display area are superposed, when said screen area and said projection display area are different.

19. (Original) The image distortion correction method according to claim 11, wherein said projection display area is shown by coordinates inside the image imaged by said image sensor.

20. (Original) The image distortion correction method according to claim 11, wherein said screen area is shown by coordinates inside the image imaged by said image sensor.

21. (Currently Amended) A projector, comprising:

an image display portion and;

a projection lens for projecting an image, displayed on said image display portion, to onto a screen,

said projector further comprising:

an image sensor for imaging a said screen and the projected and displayed image and projected onto said screen;

means for calculating a distance between a plurality of points inside the projected and displayed image and said projector from the image imaged by said image sensor;

means for detecting a positional relationship between said projector and said screen from said distance; and

means for correcting an inputted image data based on said positional relationship so as to display the image on said screen in an object shape.

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22. (Original) The projector according to claim 21, wherein said image sensor is placed in the vicinity of said projection lens.

23. (Currently Amended) The projector according to claim 21, wherein said image sensor images the projected ~~and displayed~~ image through said projection lens.

24. (Currently Amended) The projector according to claim 21, further comprising means for detecting the distance from said projector to said screen by detecting the projected ~~and displayed~~ image in a focused state.

25. (Currently Amended) The projector according to claim 21, wherein, when the positional relationship between said projector and said screen is detected, a plurality of representative points on the projected ~~and displayed~~ image ~~is~~ are discriminated.

26. (Original) The projector according to claim 21, wherein, when the positional relationship between said projector and said screen is detected, an image for test purpose is projected and displayed.

27. (Original) The projector according to claim 25, wherein, to recognize a plurality of representative points on said image, specific representative points are displayed by flashing, and

are discriminated as specific positions on the image by recognizing a flashing state thereof by the

image sensor.

28. (Original) The projector according to claim 1, in the case where an area of said screen

cannot be detected, further comprising a function to automatically perform the correction of an

inputted image data in such a manner that the distance from the image imaged by said image

sensor between a plurality of points inside the projected and displayed image and said projector

is calculated, and the positional relationship between said projector and said screen is detected

from said distance, and the image is displayed on said screen in an object shape based on said

positional relationship.

29. (Currently Amended) The projector according to claim 1, comprising:

means for projecting and displaying a pattern inside on said screen;

means for detecting an area of the projected and displayed pattern; and

means for detecting a projection display area from the area of the detected pattern.

30. (Original) The projector according to claim 29, comprising means for correcting an

optical distortion of said image sensor.

31. (Original) The projector according to claim 29, comprising:

means for comparing the projection display area subsequent to a distortion correction ~~and~~ to the screen area; and

means for feeding back the comparison result and updating the distortion correction in such a manner that the projection display area subsequent to the distortion correction and the screen area are matched.


32. (Currently Amended) The projector according to claim 21, comprising,

means for projecting ~~and displaying~~ a central portion image and an outer peripheral image;

wherein said outer peripheral image is ~~about~~ a size to explicitly point out to a user ~~on~~ a limit of the image distortion correction by installing said screen in such a manner that the screen contains said central portion image and is placed inside rather than outside of said outer peripheral portion image.


33. (Currently Amended) The projector according to claim 21, in a state of being unable to perform the image distortion automatic correction, further comprising:

means for projecting ~~and displaying~~ a central portion image; and

means for performing the image distortion correction by allowing four corners of said central portion image to match four corners of said screen.